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ACTIVITIES OF THE CZECH AND SLOVAK ACADEMIES OF SCIENCES

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ACTIVITIES OF THE CZECH AND SLOVAK ACADEMIES OF SCIENCES

[Following are translations of articles on the above subject, selected from a Slovak source. Source information accompanies each article.]

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## ACTIVITIES AND PLANS OF THE SLOVAK ACADEMY OF SCIENCES

Following is the translation of an article by Viliam Thurzo in Vestník Slovenskej Akadémie Vied (Bulletin of the Slovak Academy of Sciences), Vol II, No 2-3, Bratislava, 1960, pp 90-115.

Esteemed Assembly, Dear Comrades! I wish to report briefly on the activities of the Slovak Academy of Sciences for 1959, outline the main scientific-research tasks for 1960, and indicate some tasks which await us in the Third Five-Year Plan. This cannot be done in any other way except by confronting the tasks already solved with the goals set up for Czechoslovak science by the Eleventh Congress of the Communist Party of Czechoslovakia, the Congress of Socialist Culture last June, and by additional resolutions of Party and State organs. In addition to this, we must take into consideration the development of the work centers and the conditions in which they were found at the beginning of 1959.

Socialism originates in science, it finds its support in science, and it constantly creates additional new assignments for science. The task of reaching and to surpassing in production in the shortest time possible the most advance capitalist countries is not, therefore, only an appeal to the production centers and their management but also a very serious appeal addressed to Science. Even the directives pointed out to us by the Congress of Socialist culture are very important for us. The task "to increase the effectiveness of our work by new forms of organization and management of enterprises and by new forms of planning our work," which was addressed primarily to the production branches of our national economy, is also our own task. Equally important for us was and still is the task "to turn our face to life, to remove all attempts to separate scientific research from practice," in production as well as in our cultural doings. Our scientific-research activity in its full broadness must be in closest contact with the concrete tasks of building socialism in our country. This can be accomplished only if every worker of the Slovak Academy of Sciences unconditionally has the correct political view-point in order to base the conception of the world on science and sensitively react to the requirements of our society as it heads for communism. All this requires replacing in science the old individualistic ways of work with collective forms in order to secure consistently the complexity of scientific research -- not only within one work center but also among different

work centers. We have to remove the great split of scientific work which still exists and secure the increase in participation of all scientific workers in the management and planning of scientific work through party and branch organizations in work centers.

Favorable preconditions in the above-mentioned direction were created by the political and expert screening of our work centers in the year 1958. On the whole, we can also positively evaluate the course of the philosophical-methodological seminars in the work centers of our Academy in the year 1959, which were aimed towards increasing the ideological level of our expert and scientific workers. We will use the experience which we gained there also in this year's seminars. In accordance with the resolution of the Eleventh Congress of the Communist Part of Czechoslovakia [KSC], we made in 1959 some provisions for the completion of the building, or let us say strengthening, of the work centers of natural sciences with technical and economic specialization. It is true that these are only the first steps in this direction and that during the coming years it will be necessary to fulfill this task much more energetically and thoroughly.

An important step forward, as far as the concept of further development of work centers is concerned, in forming one uniform all-state base for scientific research were the joint discussions which took place among those in charge of our academies. This was also the aim of the meeting of scientific workers which took place last May in Smolenice, which outlines the direction of the evolution of a scientific-research base in our country; this is presently being defined with more precision for the Third Five-Year Plan. Even if we are far from being satisfied with present conditions, we have to state that the participation of workers and social organizations in the construction and control of scientific-research plans for the year 1960 was greatly improved last year. One can see without any doubt that their increased participation will unify matters, that plans are improving quality, that initiative is captured from below, and that the political preparation of workers to fulfill the plans is also improving. This is also one of the ways of gradually eliminating the above-mentioned scattered plans and their deviations from practice. The participation of workers in these planned tasks is an unusually good political as well as professional school for workers.

Political and organizational experience from the preparation of the scientific plan for the year 1960 was fully utilized during the preparations of the prospective plan of the scientific-research tasks for the Third Five-Year Plan. We can say that the prospective plan is qualitatively different from the existing plans even if its present form is not yet definite, for it will be defined with more precision during this year.

I have already mentioned that the Presidium of the Czechoslovak Academy of Sciences and the Board of the Slovak Academy of Sciences has met for joint discussions. First of all, we wanted to secure concrete cooperation between both sections and work centers of both our academies. During the past two years, our sections arranged with the corresponding

sections of the CSAV [Czechoslovak Academy of Sciences] several joint sessions, alternately in Prague and in Bratislava. Even there, where the sections did not entirely correspond, the comrades found a suitable form of cooperation. Thus our joint scientific section arranged joint sessions with all three joint scientific sections of the Czechoslovak Academy of Sciences last December. During these sessions, a form of cooperation was agreed upon and developed. This was very important for the growth of our young creative workers and for long-term staffing with our scientific workers at advanced institutions of the CSAV. It is true that all work centers have not yet made use of this form, but we can say that the first organized steps have been already made.

Our work centers were working jointly with the work centers of the CSAV on a concrete solution of scientific-research problems. Let me mention only some of them: The Chemical Institute of the Slovak Academy of Sciences [SAV] cooperates with the Chemical Institute of the CSAV in the field of research of plant proteins; our Geophysical Laboratory cooperates with the Geophysical Laboratory of the CSAV in doing research of the electromagnetic field of the earth; our Physical Laboratory cooperates with three work centers of the CSAV in studying the problems of conductors of heat; the Geobotanic Laboratory of the CSAV cooperates with our Biological Institute in the task of the geobotanic mapping of the territory of Slovakia; the Institute of Experimental Medicine and Endocrinologic Institute of the SAV cooperates very closely with some work centers of the CSAV; the SAV Institute of Building and Architecture cooperates with the CSAV Institute of Technical and Applied Mechanics on the theoretical and experimental findings of space constructions of bridge types and on the problems of stability of thin walls of bent tie-beams. Historical institutions of our academies are working jointly on an outline of Czechoslovak history; there is also a close cooperation of the Slovak Institute of Literature, the Ethnographic Institute, and the Economic Institute with the corresponding work centers of the CSAV. And all these examples of good cooperation created preconditions for the present beginnings of a new adjustment of the relations between the CSAV and the SAV, as Comrade Chairman Siracky pointed out in his report.

In the introduction of my report, I briefly touched on several questions and their solutions. Permit me now to elaborate further on those general statements and to illustrate by the evaluation of work and by the prospects of development of individual sections and their plans. Members of the academy have, in the material which was sent to them, a detailed evaluation of the plan for individual sections for 1959, as well as a proposed plan for 1960. Therefore, let me talk now only about some of the most important results accomplished in 1959 and about the main tasks of individual sections for 1960.

#### Section One:

The Cabinet of Mathematics, which was formed during the year, was busy with the problem of using mathematical methods in the national economy, especially the so-called preparatory problem. In the Institute

of Astronomy, in addition to the planned tasks an intensive research on artificial satellites also took place. In the Physical Laboratory, the application of radio isotopes in the glass industry was developed, the bases for constructing an artificial ear were put into production, and problems of heat conductors were solved. In the Geophysical Laboratory within the scope of the all-State key part "Gravimetric Map of Slovakia," the mapping of a territory of 3000 km<sup>2</sup> was finished. In the Geological Laboratory, the State task dealing with the locations of the deposits of bauxite in the area of Western Karpaty was finished. At the same time, joint work was done on making a geological map of Czechoslovakia in the scale 1 : 200,000. The Geographical Institute concentrated its efforts on the geomorphological exploration of Slovakia; and in the field of climatology, on the climatological exploration of Tatras.

The Chemical Institute was solving basic questions dealing with the colloid of chemical processes, and the evaporation of plant juices. The theoretical findings gained help to eliminate empiria in technological practice. They are used in practice, for example, in the Sladkovic sugar factory. For practical use, results were also given dealing with the production of lactic acid. In the field of the research of effective cardiovascular materials, two new materials were obtained (convalatoxin and helvetikozid), both isolated from domestic raw materials. In the field of wood and cellulose, there were additional studies of some symptoms during the sulphite process and of the problems of utilization of sulphite residua. In the field of inorganic chemistry, the research on the qualities of active coloring earth of Eastern Slovakia was continuing with the purpose of increasing mining, chiefly of bentonite. The result of the division of the Chemical Institute has been that since 1 January 1960, three independent chemical institutes were established.

The work centers of the Division of Mathematics and Natural Sciences fulfilled basically the task for 1959 in the manner in which it was drawn at last year's general assembly.

The work centers concentrated more than before on several tasks which are important from the practical point of view of the socialist upbuilding of the society and from the point of view of developing corresponding sciences. This tendency is even more obvious in the section plan for 1960.

The majority of individual work centers is in closest contact with corresponding work centers of SCAV; this is also noticeable in the mutual coordination of tasks. In several cases this coordination exceeds the Czechoslovak scale, as it finally corresponds even to the nature of sectional work centers.

The problems of research of the scientific fields belonging to the first section are a center of interest of the whole world. Besides this, in the majority of cases scientific fields are involved which by the nature of their work suit best the Academy; in other work centers they can be developed only in a restricted measure. From this point of view, we must evaluate not only the work of the workers but also take into consideration the inner set-up of institutions and the rate

of their development. In this respect we cannot be satisfied with the situation. Work centers of sections must be strengthened substantially in coming years -- especially with better scientific cadres. Thus, for example, the Physical Institute should have, according to the prospective plan for 1965, at least 120-130 workers; from this number at least 20% will be scientific. The same holds for other work centers. Such tendencies are noticeable in the plans of institutions, but they are not yet as expressive as we would like them to be. It would be wrong to suppose that this is a question of manpower assigned to the academy by higher State authorities. This primarily a question of educating new cadres. From this point of view, close contact with institutions of higher learning is extremely important, because it is more important for this section than it is for any other to capture the interest of the cadre in time. One of the preconditions is the correct ideological guidance of the young and youngest generation, which is taking up the duties and to which the social importance of creative scientific work for the development of our national economy and culture must be obvious from the very beginning.

We must continue utilizing the existing forms and increasing the qualifications of workers; however, we are afraid that these means will not be sufficient in the future. We will solve this problem in connection with the paper which is being prepared about the development of the physico-mathematical sciences. The possibilities of educating the workers by means of a long placement at the work centers of the CSAV and elsewhere were not fully utilized on the whole, although it seems that in this respect the first section had the best results.

In conclusion, we must state with satisfaction that in the plans for the year 1960 we count on the deepening of the cooperation with other research work-centers at home and abroad, and on undertaking problems in which there is an obvious tendency for a complex solution of assignments. This is being done also in the work centers of the section where it took place only on a smaller scale in the past.

## Section Two:

The plan of the scientific-research tasks of the biological- and medical sciences work-centers built on the research tasks of the previous years in 1959. The main tasks on which they worked in 1959 were aimed toward the important problems of the socialist upbuilding of the society.

The arboretum in Mlynany concentrated on the problem of the germination of seeds. The botanic garden in Kosice concentrated on solving the problems of photosynthesis and research on cancer of potatoes. The results of the research were given for practical use. The Biological Institute concentrated on fulfilling tasks directly connected with practice; e.g., it introduced the production of aureovite 12, an important means of animal production. In addition to this, the institute solved the problems of fruitgrowing and the protection of plants. The Institute of Endocrinology solved the problem of basic



research in the field of functions of the nerves with a positive result for clinical practice and the problems of endocrinopathy in Slovakia. The Institute of Helminthology concentrated on the study of dehelminthization of agricultural and domestic animals, which is of great economic importance. It also solved and introduced a new defasciolizing method. The Institute of Experimental Medicine concentrated on research of the central nervous system and nerve functions. In addition, it solved problems of surgery of the heart and bronchitis in connection with surgeries during TB, cancer of lungs, and accidents. The results were introduced in practice. The newly developed heart pump is successful at home and abroad. In solving the tasks of work centers for 1959, complexity and collectivism were utilized more explicitly. More attention was also given to the coordination of work centers with the corresponding work centers of the CSAV, CSAPV, universities, and resorts.

The section paid great attention to the professional and ideological growth of its workers. During the year 1959 five scientific workers defended their dissertations. By 31 December 1959 there were 16 candidates of the academy; out of this number, there were three independent scientific workers.

Research dealing with problems of the protection of nature and life environment was little developed.

The plan of the scientific-research tasks of the work centers of the Department of Biological and Medical Sciences for 1960 basically follows up the research tasks which were solved prior to 1960. In taking over these tasks, the party and Government's document dealing with the increase of field and animal production and with the development of our health service was accepted. Research is thus being directed towards the prevention of various dangerous diseases. Additional work is being done dealing with the task of the geobotanic mapping of Slovakia, which is a part of the State-wide plan. The research of new antibiotics is going on. In zoology, the fields which are important for national economy will be given preference. The above-mentioned problems are also being solved regarding the practical importance to health service, water and field economy, forestry, and at the same time they help to complete the picture of the animal and plant life of Slovakia.

In compliance with the decision of the Eleventh Congress of the Communist Party of Czechoslovakia, basic research in the field of physiology will be deepened with special attention given to the physiology of the nervous system. The solution of this problem is also of great practical importance in connection with the consequences of the changes of living and working environments. Additional work will be done in solving the problem of experimental surgery of the heart and blood vessels. The research of helminths and helminths of man and domestic and wild animals is deepened and broadened.

### Section Three:

Starting from the valid resolution of the party and Government

dealing with the need for preferential and speeded-up building of research in the field of technical sciences, the section concentrated its efforts in 1959 not only on the fulfillment of the plan of scientific-research tasks but also on creation of suitable conditions for additional building of work centers.

In 1959 11 scientific research projects were completed in the section. The majority of them, without any doubt, will contribute to the rationalization of our production, respective to the increased efficiency of work and with the increased degree of production. Some of the problems which were solved helped our projection and production immediately. I will mention some of them:

In the Institute of Building and Architecture, the theoretical problem of statical and dynamical examination of constructions was solved. This made the way of calculation of non-rectangular boards at various load distributions more accurate and simpler. Of great importance for the national economy is the solved problem of nondestructive dynamic methods in controlling the quality of concrete, primarily in the control of the production of prefabs. In the Institute of Hydrology and Hydrotechnics, two problems were solved which developed during the hydraulic engineering work on Danube near the Wolfstahl-Bratislava sector. In the Laboratory of Machinery and Mechanization, the problem of the oscillation of linear mechanical systems was solved. Its results are already being used in industry, in the national enterprise J. V. Stalin Plant in Martin. In the Laboratory for Measuring-Instruments, an instrument was constructed for the control of the straightness of a drill over 10 m in length; our industry will use this for the control of the drilling of long shafts manufactured in heavy engineering. In the Laboratory of Metallurgy, the research on the physical and mechanical qualities of upper-surface rocks in Handlov and in Novaky was finished. This will serve to select the most suitable mining methods in these coal mines.

A definite step forward, in comparison with the plan for 1959, is the plan of research-tasks of the technical section for 1960. There is a more complex understanding of the proposed tasks than there was in the past not only within the institutions but also in the form of cooperation with other institutions. This shows also in the reduced number of planned tasks and the increased number of scientific workers.

In the Institute of Building and Architecture, the main stress will be put on research of the stability of thin walls and bent steel tie-beams, on the research of static influence of (iron) concrete constructions reenforced by new kinds of concrete steel, on the research of speeding the hardening of mortar and concrete, and on the research of reological ? qualities of main construction-materials.

In the Institute of Hydrology and Hydrotechnics, research of the methods of forecasts of the outlet of Slovak rivers will be continued, and the regularity of waterflow in open river-bed will be examined. In the Laboratory for Measuring Instruments, work will be done on the construction of a measuring instrument for the measuring of the surface tension of liquid metals and alloys, and on the

construction of a photoelectric photometer for the observation of changes of the lucidity of planets. In the Laboratory for Machinery and Mechanization, the solution of dynamics of regulation areas will continue. In the Laboratory of the Physics of Metals, research is concentrated on new technical metals and alloys with the aim of developing new materials which will be used at high temperatures and pressures in power. In the Laboratory for Electro-technical Engineering, research will continue in the field of new measuring methods of electrical and magnetic fields on the basis of half-conductors and proton resonance, and in the research on a perimeter for adding machines. In the Laboratory of Metallurgy, research of conditions for the mechanization of metallurgical production processes will start.

The suitability of topical findings of research tasks solved in 1959 and planned for 1960 is confirmed also by the fact that several were adopted in the unified all-State plan of key scientific research tasks. However, one can also say that during the planning and solving of other tasks there was progress made in their coordination with other research institutions.

According to the decision of the joint sessions of the CSAV and SAV, there was a deepening of mutual relations between both institutions by supplementing the research lines by responsible workers of sister institutions and in some cases by occasional joint sessions of their scientific committees.

The contact with research institutions also becomes closer and closer; mutual representation in scientific meetings secures a very good mutual exchange of information. The membership of the directors or managers of institutions on technical-economic committees and in scientific meetings of the resorts also contributes to the deepening of cooperation.

Unfortunately, the equipment of work centers of the technical section, as far as the number of qualified workers and necessary technical equipment is concerned, does not correspond to the importance and ambition of the tasks which must be solved. For this reason, the technical section devotes increased attention to the education of scientific workers. In 1959 thirteen workers defended their dissertations and received the degree Candidate of Technical Sciences. This way the number of scientific workers during 1959 was increased 50% and reached 36. However, additional intensive care in education of scientific workers is needed, mainly in the field of power and metallurgy.

The technical section is aware of the fact that the necessary improvement of the quality of cadres will not be accomplished by the increased qualifications of their own workers alone, but that it is also necessary to gain the best qualified workers from other work centers.

There is still an unmatched obstacle in the way: their demands for higher pay and especially the demand to provide housing for them as the production sectors do cannot be satisfied.

Perspectively, the finishing of the work centers, as far as their building is concerned, is much better secured.

In the first half of 1959 the building of the Research Institute

for Metallurgy and Mining started in Kosice; in the second half of the year the investment tasks for building the work centers in Bratislava were basically approved. Through this, the basic material requirements for further successful development of scientific-research activity in technical sciences were fulfilled through 1965.

#### Section Four:

The social sciences have been for several years the center of attention for the organs of SAV. It has been charged that the social sciences do not contribute satisfactorily to the solving of the most troublesome problems of today, that many social sciences are disciplines which have contemporary events as their topics of research, and that they predominantly deal with problems of a historic character. Thanks to the attention of Party organs, organs of the Presidium of SAV, and the section dealing with the plans for scientific-research tasks for 1959 in comparison with past years, a decreasing number of tasks dealing with the problems of the past was observed. Thus, for example, out of 14 assignments of the Institute of Philosophy, only three dealt with the history of philosophy in Slovakia. In the Institute of Economics, all five main assignments dealt with the contemporary problems of our economy and political economy. The Psychological Laboratory concentrated primarily on the philosophy of labor, and in the Cabinet of the Law School the problems of farmers' cooperative law received special attention. Also, proposed tasks in other institutions, for example The Survey of the History of Czechoslovakia, The History of Slovakia, The History of Slovak Literature, The Dictionary of the Slovak Language, The Standard Grammar of the Slovak Language, and other tasks of a similar nature, compiled from the Marxist point of view, are of a great cultural and political-educational significance. At the same time, however, we must state that in the plan for 1959 there were also assignments of a similar nature, the solutions of which are no longer up-to-date.

Much more attention was devoted to the overall plan of scientific and research activities of the Section of Social Sciences for 1960, to individual topics, and to the assignments of this plan.

Major adjustments were made mainly in the plans of the Institute for Musical science and the Ethnographic Institute. In the plan of the Institute for the Slovak Language, a new task has appeared; it is concentrated mainly on urgent theoretical problems of the contemporary language. In the Institute for History, a major stress was put on the history of the period of people's democracy. The projected plans of the Section of Social Sciences for 1961-1965, especially the projected plan for 1975, already fully correspond to the resolutions of the XI Congress of the Communist Party of Czechoslovakia on the tasks of this science during the culmination of the cultural revolution and the completion of building socialism in our country.

The main core of work in recent years rested with the 19 main assignments of individual institutes. On the whole, we can state that

the fulfilment of major tasks continued according to the plan. Last year the first volume of the Dictionary of the Slovak Language was published. The work has reached the point where one volume will be published every year. The first volume of the Great Russian-Slovak Dictionary and the second volume of the History of Slovak Literature were sent to the printers. This year the second and third volume of the Survey of the History of Czechoslovakia will be published. It is the result of the collective cooperation of CSAV and SAV. In the Institute of History, the work dealing with the History of Slovakia was completed. In the Institute of Economics, the assignment "Problems of Class Relations in the Process of Collectivization" was completed last year.

In addition to this, 25 significant, extensive monographs were completed last year, these will be published as separate books.

Collective labor becomes the basis for work in the Section of Social Sciences. Methods of collective work in the social scientific Institutes are standardized, on the whole; this is noticeable in the concrete work results. However, some problems (as far as smoothing out the complexity of the tasks is concerned) are unsufficiently coordinated, even though in the plan of scientific and research tasks for 1960, methods for the complete solution of some problems is already considered. Thus, for instance, the topic "Dialectics of the Interests of an Individual and Society in the Socialist work brigades," which is part of the main task of the Institute of Philosophy, "Ideological Problems of the Completion of the Building of Socialism in our Country," has already been solved from this point of view. With regard to some big collective tasks in progress this year, it is not possible to concentrate our efforts fully on the complete solution of some problems which, in our opinion, should be solved. Collectiveness and completeness will become in the plan for 1961-1965, especially in the final plan, basic work forms of social scientific institutes.

The coordination of tasks, especially with the institutes of CSAV, follows traditional forms. The coordination of tasks for 1960, as well as for 1961-1965, was secured by a whole series of joint sessions of the scientific councils and the representatives of the institutes. In December 1959 a joint session of the Presidia of the social scientific sections of CSAV and SAV took place; the session made an analysis of current state of cooperation and tasks, and worked out a joint program for the coordinated, ideological, expert regulation of scientific work.

An analysis of the scientific research activities of our work places for 1959 and the plans of the tasks for 1960 indicates that the majority of the work places of SAV have already outgrown their initial difficulties; they have grown into scientific collectives, able to take part in solving independently assignments of scientific and economic importance. Naturally, their share in solving these tasks depends on the quality and size of the collectives, on the technical equipment of the institutes, as well as on the size and quality of work space. The decision of the Party and the Government also presupposes the intensive growth of research, especially of the basic research in order to secure the advancement of science before the needs of the society. Simultaneously

with the preparation of the plan for the development of the national economy for the Third Five-Year Plan, CSAV worked out a plan for the development of the scientific research base until 1965. This will secure a proportional development of science in our country with the priority growth of the key scientific fields: mathematics, physics, chemistry, biology, technical and economic sciences.

The plan for the development of a scientific research base contains also a topical plan for existing and planned scientific work places; its purpose is to fulfill the crucial elements of scientific activities so that scientific work in Czechoslovakia can reach its maximum effectiveness. For illustration, I point out that in the Third Five-Year Plan the total number of research workers will grow 25-30%, and the total expenditures for science will be approximately 11 billion korunas.

The work places of SAV are also a part of the scientific research base. The increase of workers in SAV by 1965, in comparison to 1959, will be approximately 70%. The total cost of research in SAV in the Third Five-Year Plan will be more than a half-billion korunas. At the beginning of the Third Five-Year Plan, the first stage of building at Patronka will be completed, where the work places of the Department of Mathematics and Natural Sciences will be placed, and the building of the second stage will begin for the work places of the Department of Technical Sciences. In the decentralized construction we will build work places, the urgency of which was recently shown (e.g., The Institute of Machinery and Automatization, The Institute of Endocrinology, and others); these therefore could not be included in the centralized building at Patronka.

The quantitative growth of our work places also presumes a systematic increase in the quality of scientific and expert workers. The increases number of workers puts great demands on the training of new scientific workers; universities must help us greatly in this respect.

The established scientific tasks for the Third Five-Year Plan are in accordance with the plan for the development of our work places. The increasing level of scientific work in our work places makes it possible to incorporate them into the solving of the great, complex tasks which are included in the State Plan for Research in the Third Five-Year Plan, which is being prepared by CSAV. The proposal of the State plan of scientific-research tasks originates from the resolution of the XI Congress of the Communist Party of Czechoslovakia, composed for science and research in such a way that this plan will be a reliable tool for getting science ahead of the needs of the society. The State Plan of Research concentrates its efforts and means for the complete solution of the most important tasks of science for the Third and the following five-year plans. In this way it eliminated resortism, a narrow concept of personal interests. It now contains the following 15 complex assignments: "Research on the Development of a Power Base," "Development of Resources for Mineral Raw Materials," "Complex Exploitation of a Chemical Raw-Material Base," "Research on New Organic Substances and Materials," "Research of Metallurgic Processes and

Metals," "Research on New Technology of Machine Production and on the Basic Problems of Machine Building," "Research on the Complexity of Automatization, Theory and Transmission of Information," "Technical Preconditions for the Creation of a Cultural Life Environment," "Research on the Conservation and Formation of a Region and the Creation of a Healthy Life Environment," "Research on the Composition and Function of a Living Substance," "Research on the Development of a Socialist Agricultural Economy's Mass Production," "Healthy Development of a New Generation," "The School and Education in the Era of Completion of Socialism and the Transition to Communism," "Ways to Increase the Effectiveness of the National Economy in Czechoslovakia, Socialist International Sharing, and Competition of Two Systems," "Problems of the Social Changes in Czechoslovakia during the Period of the Transition to Communism." The above-mentioned complex assignments are further divided into State assignments, these into problems, and problems into the individual goals which are supposed to be reached in individual years of the Third Five-Year Plan. As I have mentioned previously, our work places will also take their share in the fulfilment of complex assignments. I will mention here some of the institutes in which our participation will be greatest.

In the Department of Mathematics and Natural Sciences: The Institute for Wood, Cellulose, and Chemical Fibres will be the chief work place dealing with the problem "The Research of New Ways of Economic Utilization of Wood Substances" and "The Research of Utilization of Noncellulose Components of Wood Substances." It will also participate in such problems as the study of the chemical and physical composition of cellulose and research on the chemical transformation of cellulose with special attention to fibres. The Chemical Institute of SAV will participate in the research of new drugs against cardiovascular diseases.

In the Section of Biology and Medical Sciences: The Institute of Experimental Medicine will be the chief work place for solving the problem "The Research of Toxicity of Materials in Waters With Regard to the Process of Biochemical Oxidations and Reductions."

In the Section of Technical Sciences: The Institute for Building and Architecture will be the chief work place dealing with "Basic Research on Physical Qualities of Solid Materials" and "Research on Technical Problems of Heat, Light, Acoustics, and Climatic Conditions in Buildings." The work places of the section will also cooperate in solving individual problems accordingly. The Institute for Building and Architecture will participate in "Research of New, Progressive Constructions with Maximum Usage of New and Artificial Materials for Economically More Exacting Constructions," Research of New Calculation Methods of Building Constructions," and Evolutionary Tendencies in the Building of Settlements." The Institute of Machinery and Automatization will participate in "Theory of Construction of Automatic Calculating Machines" and "Theoretical Research of Complex Automatization." The Metallurgic Laboratory will participate in "Research on Mountain Pressure and Mechanical Qualities of Rocks." The Institute of Hydrology and Hydrotechnics will participate in "Research on Optimal Ways for Using

Water Supplies in Czechoslovakia." The Laboratory of Energy will participate in "Research on the Consumption of Energy in the Amount of Output, in Time and Place Distribution" and "Research on the Concept of New Heat and Water-Power Works."

In the Section of Social Sciences: The Institute for Economics will be the chief work place for solving "Relations between Technical Development and the Development of the Distribution of Labor, Specialization, and Cooperation." The Institute of the Slovak Language and the Institute of Slovak Literature will be, together with sister work places of CSAV, the chief work places dealing with "The Tasks of Literary History and Linguistics During the Culmination of the Cultural Revolution." In addition to this, the work places of sections will cooperate in solving the following individual problems: The Institute for Economics will participate in: "Analysis of the Factors in Balancing the Economic Standards of Oblasts and in Using Natural and Economic Resources," "The Tuning-up of the Branch and Regional Point of View at Placing the Production Power with Regard to the Complex Development of Oblasts." In addition, The Institute of Philosophy will participate in "The Application of Lenin's Theory on Socialist Revolution in Czechoslovakia" and on the problem "Methodological Basis of the Concrete Sciences." The Institute of History will participate in "The Task of Historical Sciences at the Completion of the Cultural Revolution." The Cabinet of the Law School cooperates on the problem "The Development of Socialist Democracy and elements of Communist Social self-administration."

The impression might arise that the work places of the Department, of Mathematics, Natural Sciences, Biology, and Medical Sciences do not participate significantly in the State plan of research. We should mention that the tasks and problems belonging to these sections are not yet stabilized, and therefore it is not possible to discuss, not even preliminarily, the possibility of combining our work places. However, we can already state from the existing survey that our work places increasingly participate in the solving of the State plan. This has been true during the current five-year plan and proves that the scientific work level of the Slovak Academy of Sciences is rising constantly. For the time being, these suggestions are preliminary and do not exhaust all the possibilities for our work places. The main tasks of the Third Five-Year Plan will be consulted in our work places, and the sections of the Presidium of SAV will also express their point of view.

The conclusion of this report is that we have basically fulfilled the tasks for 1959 and that there are realistic preconditions for the fulfilment of the tasks for 1960. This will enable a good start for the Third Five-Year Plan in the field of science and research.

#### Discussion

Academician Ivan Malek spoke for the delegation of CSAV:

"Allow me to greet the Thirteenth General Assembly in the name of the Presidium of Workers of the Czechoslovak Academy of Sciences and to



wish great success to your conference.

The General Assembly of SAV is meeting at a time which is historically very important for our State and our nations, and its content corresponds to the prominence of this time.

Now we are finishing the important era of the building of our socialist society, and we are entering the era of building a mature socialist society; this finds its expression in the fact that in the coming months all of our people will discuss the proposals of our new constitution, which was approved by the recent session of the Central Committee of the Communist Party of Czechoslovakia in the presence of the representatives of the National Front. As you already know, and as the comrade President brought to your attention, this new constitution of a socialist state. Its acceptance will be a milestone in the revolutionary evolution of our country, and it will also be an important element in our international position.

At the same time, we carried out important organizational and territorial changes, which are preconditions for further broadening the authority and responsibility of national committees, and with it the deepening of socialist democracy.

We are approaching the time for the election of new deputies on all levels. We are preparing assignments of our Third Five-Year Plan -- the Five-Year Plan for building an economically and culturally mature socialist society.

All this powerful upswing of all our human power, lead by the Communist Party of Czechoslovakia, is materializing at the same time in a favorable international atmosphere. Great changes in the leadership of the cold war, connected with the visits of N. S. Krushchev in the US and in France and Soviet proposals for complete, universal disarmament, are an expression of the growing influence of the countries of the socialist camp; they are a reflection of the economic, political, and scientific success of the Soviet Union and other countries of the socialist camp. It is obvious to everybody that the influence of the successes of the socialist camp will keep on strengthening. It is therefore an entirely realistic task to catch up with and get ahead of the capitalist world.

We, the scientific workers, are conscious of the fact that the historical tasks which are ahead of us are great and responsible tasks for us, as well as for science. All of us know what a great and constantly growing task science has in our modern society and what kind of a task it will have in order for the socialist camp to win over the capitalist camp.

However, we know that this is not an easy task, because the science of the leading capitalist countries which we must get ahead of is extremely strong, and even in those capitalist countries it is still growing. In addition to this, these countries have, as a rule, traditions already well-developed and technically and methodically well-equipped. The development of science is speeding up even there.

However, at the same time we see from the example of Soviet science and its success what kind of advantages the socialist order gives

for the victory of socialist science in this competition. The whole world is aware of the significance for international affairs that the victory of Soviet science had: its success, especially in physical sciences, in the exploration of space, and others. This victory is not accidental, and it is not only the result of the fact that extraordinary effort was concentrated in these fields. This victory is the result of the advantages which the socialist order gives to science in comparison with the capitalist order. We, the workers of socialist science, have indeed advantages in the fact that there is no controversy between science, its humanistic aims, and the society; on the contrary, there is a relation of mutual, close, and most effective support. We have the advantage of a firm world outlook, based on Marxism-Leninism, which gives us a philosophical assurance and work method, and shows the interdependence of our scientific theory and practical life. We have an advantage in the fact that in science itself there are no objective reasons for competition, so common in capitalist science, and therefore we can concentrate the necessary strength on the solution of great tasks. The success of Soviet science shows best how great are the opportunities given in this respect by the socialist order. But we also have an advantage in the fact that we can cooperate closely and without any competition with all countries of the socialist camp.

We have also a tremendous advantage over the capitalist countries in that we can discover, develop, and train the talent from an entire group of nations, while in the capitalist countries they are restricted only to a narrow stratum of the privileged classes. And you know that the development of science and its tempo are basically determined by the number of gifted workers we can find and broaden in their creative abilities.

Therefore, we have all the preconditions for the fulfilment of our task, which is to take an honest share in the victory of socialism against capitalism.

In recent years our science has made tremendous progress. Let us compare what we had during the bourgeois Republic and even shortly after World War II with what we have now. The basis of the universities has been substantially widened. Today we have almost 100 scientific work places of CSAV, over 30 work places of the Slovak Academy of Sciences, around 30 work places of the Czechoslovak Academy of Agricultural Sciences, hundreds of resort institutes, and laboratories attached to manufacturing plants. We trained thousands of new scientific cadres and equipped them with new, modern technics, methodology, and the scientific methodology of Marxism-Leninism. In a number of fields we achieved the world scientific level and brought important improvements for our growth. And how it changed our scientific consciousness! It is sufficient to mention that today none of our scientists accept the Weltanschauung which was implanted in us during the bourgeois Republic, that we, as a small nation, a small state, cannot take a significant part in the development of world science.

An especially noticeable scientific level has developed here in Slovakia. It can be compared with that magnificent development of

production power, with the advancement of industrialization, which was realized here by the enthusiastic work of the Slovak people and with the brotherly help of the Czech workers under the leadership of the Communist Party of Czechoslovakia, which is directed by the principle of Leninist national politics. Let us remind ourselves that during the bourgeois Republic there was only one university in Slovakia with three schools and 2,000 students. Today there are 12 universities with 32 schools and 23,000 students. And in addition to this, there are tens of scientific institutes and work places, out of which some became all-State institutions, e.g., The Welding Research Institute, The Institute of Wood and Cellulose, and others. Today we heard in the report of the chief scientific secretary, comrade Thurzo, the scientific results which were accomplished.

Quite an extraordinary merit belongs here to the Slovak Academy of Sciences, which not only developed the work in its institutions and scientific societies, but also solved a great editorial program, which is proven by the fact that in 1959 it published 70 books and 29 periodicals.

This is, no doubt, a great and encouraging success of Czechoslovak and Slovak science.

However, if we consider what tremendous tasks we are facing, we must come to the conclusion that we can consider this tremendous upswing of science only a preparatory stage for an additional, still more magnificent development of socialist science. Therefore, even the tremendous upswing of Slovak science must be considered as only a preparatory period. And we can say that this preparatory period is basically finished, even though there were gaps left in several places, and that it is necessary to step forward with full energy.

The Eleventh Congress of the Communist Party of Czechoslovakia gave us an assignment: to secure in science a maximum breakthrough, exceeding social needs, and to thus create a supply of scientific findings necessary for reaching the summit of building socialism and for the preparation of a gradual transition to the next stage of development, toward a Communist society.

Therefore, we must think of all the results which were accomplished, and to the current forms of scientific and organizational work, because our economy and even our science face tremendous tasks. How many scientific problems have been brought up by the task of making our agriculture keep pace with our industrial production? How many questions and how much effort will be needed to secure the most effective and most productive automatization and mechanization of our production to secure the necessary energy, to further the development of our socialist health service and education, to materialize a cultural revolution, etc.? Therefore, it will be necessary to examine the existing forms from the point of view of these new great tasks, because the new stage will also demand new, more effective methods.

Therefore, the Eleventh General Assembly of the Czechoslovak Academy of Sciences will step forward with new forms of the most important basic scientific tasks, with which the main secretary, comrade Thurzo,

familiarized you briefly. By this he suggests a greater concentration of all efforts for the solution of the greatest complex tasks, which are the main paths of science while building a communist society. This demands an integrated cooperation, mutually joined at the solution of all scientific problems on an all-State scale. This requires better, more effective work, less formal planning of science, and, above all, the additional, more energetic securing of the best qualified scientific cadres.

This is the reason why we are following with such interest today's deliberations of the Slovak Academy of Sciences, the aim of which is to find forms for a still more effective and closer cooperation within the framework of the whole of Czechoslovak science.

Surely there is still left for Slovakia a number of its own specific tasks resulting from the fast change of the country and people and the quick adjustment of the differences between the Czech and Slovak lands; therefore, its central organization of science, the Slovak Academy of Sciences, must be preserved in the future.

However, the power of Slovak science must be strengthened and developed to the extent that it can contribute much more effectively to the solution of all the heroic tasks of socialist Czechoslovakia and socialist Czechoslovak science. It is therefore a joy to see that Slovak scientists are deciding for closer cooperation with the Czechoslovak Academy of Sciences. It is necessary to activate in our entire socialist Czechoslovak Republic all creative power and all talents and to give optimal possibilities for scientific application.

That means no more brotherly work next to each other or brotherly help, but comradely cooperation in solving the great tasks of building socialism and forming a scientific surplus for the transition to a communist society. This is an additional direction of the development of Czech and Slovak science.

Such comradely cooperation between the science of Czech lands and the science of Slovakia is, of course, nothing new. Indeed, in a number of fields Slovak science already has such a position and in a number of sectors it took the leading position in the entire state; however, much joint work will still be needed in order to integrate our strength on the entire scientific front, so that we will find the most effective, most adequate, and least formal forms of this cooperation.

I would like to bring to your attention the fact that the Biologic-Medical Sections of CSAV and SAV have already proceeded in this type of cooperation. Next week they will realize a joint five day session in Slovakia, in which we will jointly discuss some significant joint tasks, such as the securing of healthy regions near great industrial plants and even concrete cooperation at the solving of great, cardinal tasks.

It goes without saying that the increasingly closer cooperation with Soviet science and with the science of other socialist countries will be a help to us while solving all the problems of our science. At the same time, it is important for us to study in detail the great changes which Soviet science is achieving, so that we will be still

better equipped for the great tasks. First of all, it must be an important reality for us that the growth and development of Soviet science is faster than that of our science; the growth of the Academy of Sciences of the Soviet Union increased during the past three years by 15% per annum. This indicates to us that we must devote much more attention than we have been to the selection and schooling of scientific cadres, so that even we will be able to materialize such a great and rapid development of science.

Therefore, there is no doubt about it that we have all the pre-conditions for science in our socialist lands to be able to follow the example of the Soviet science and thus win for ourselves, as well as for the socialist order, primacy in the world. Today's session of the Slovak Academy of Sciences is of historical significance for the tasks which Slovak science, together with science from the Czech lands, wants to contribute to this victory will be discussed.

Permit me, therefore, to conclude my report by wishing that Czechoslovak science and its constantly growing partner, Slovak science, will be able to fulfill their tasks with greater and greater success, so that they can contribute the greatest possible share to the victory of socialism and, with it, to the fight for everlasting peace in the entire world."

Inženýr Milan Lazar, from the Institute of Wood, Cellulose, and Chemical Fibres of SAV, spoke about the origin of the Laboratory for Synthetic Polymers and its relation to the Institute of Macromolecular Chemistry of CSAV:

"One of the central directions of the development of the chemical industry in recent years is the chemical processing of crude oil and ground gas. States with advanced industry have already accomplished outstanding results in this line. Unfortunately, in our country we started working more seriously in this field only three to four years ago. A certain slowdown resulted from the uncertainty of securing the hydrocarbon raw materials. However today, after a significant agreement for a generous supply of crude oil from the Soviet Union, the situation has changed basically, and there are practically no obstacles to the building of a modern chemical industry.

Slovakia will indeed take a great share in the suggested development of the Czechoslovak chemical industry. By building a crude oil combine in Vlci hrdlo, raw materials for the macromolecular industry are basically secured. Special attention should be paid to the utilization of hydrocarbon gas for the production of polyetylen, polypropylen and synthetic rubber. Also very favorable conditions for building and enlarging the production of polyvinylchlorid, chloropren rubber, and other important polymers will exist after the building of a nitrate plant in Sala.

In addition to the existing plants in Novaky, Zilina, Bratislava, and the above-mentioned plans for additional growth of plastic materials production in Slovakia, the Eastern Slovak Iron Works will be of a great

importance. There, on the basis of coke gas, the production of polyvinylchlorid, polyetylen, and other plastic materials will start.

We can see from the above-mentioned examples what great importance is given in our country to securing the production of a sufficient quantity of plastic materials. This is because their use in our life is very extensive in engineering, electrotechnics, building, farming, and in the consumer industry. It could not be otherwise! Products based on plastic materials are often much cheaper and at the same time of better quality than products of conventional materials. These facts might be a clue for understanding the unusually fast, world-wide growth of plastic materials production and indicates correctly the goal for inquiry and scientific research. However in this vital development of macromolecular chemistry in our country, the Slovak Academy of Sciences until recently did not play its proper, proportionate role. There were no work places to solve the basic scientific research tasks which are the result of the demands of a newly developing industry and needs of research institutions. For these reasons and because of some decisions of the leading organ of SAV, as well as in agreement with a recent document of CSAV, work places for synthetic polymers are being created; these are affiliated with The Institute of Wood, Cellulose, and Chemical Fibres. A scientific work center is being built like a laboratory, planned to form an independent institute after 1965. The current tasks of the work center deal with the study of chemical reactions of hydrocarbon polymers, with the aim of a useful change in their qualities. In this respect, long-term, planned activity already exists within the framework of a complex, long-term assignment, "Chemical Modification of Polyolefins," which is included in the State plan of polymer research. The temporary grouping of the work center with the Institute of Wood, Cellulose, and Chemical Fibres seems to be useful from the point of view of organization and economy. However, with regard to the correct orientation of work problems and the factual, informal control of work, it will be correct to solve the problem of the scientific independence of the laboratory. I think that this goal can be reached by forming an independent scientific council of the laboratory, responsible to another similar advisory and control organ.

A few words about our relations with the Institute of Macromolecular Chemistry of CSAV in Prague. Right from the very beginning, I must report with pleasure -- even if my experience is relatively short -- that our relations are not of a competitive nature, but neither are they relations of coexistence. It is something much more. What is the basis for this favorable reality? I think that it is the mutual consciousness of the necessity of linking the maximum number of scientific workers with solving the problems of macromolecular chemistry and to discuss jointly the aims and plan of work, as well as some additional measures. Such planned mutual participation in scientific councils, help in the training of scientific workers, and joint discussions dealing with the tasks already completed will surely be of additional help and will strengthen mutual relations and cooperation.

I am confident that the origin of the Laboratory for Synthetic Polymers has a positive meaning for the Slovak Academy of Sciences. In

addition to the traditional fields of chemistry, which already have their representation with SAV, there appears a modern, and at the same time very desirable, trend of scientific research. In this connection it is worth considering whether it would not be wise to transfer gradually an adequate number of workers from other fields of chemistry which seem overburdened with cadre at present."

Inzenyr Stefan Petras, from the Laboratory for Machinery and Automatization of SAV, spoke about some problems of automatization. First of all he concentrated his attention on the role of calculating machines in basic research:

"In introducing automatic calculating machines in the complex automatization of production processes, there are many serious problems not only for technicians, but also for other experts, mathematicians, doctors, economists, even the workers of social scientific fields.

In our country the Research Institute of Calculating Machines in Prague deals with the problems of calculating machines. However, because of all kinds of objective and nonobjective difficulties, the research in this direction is far behind the average world level. The production of automatic number calculating machines cannot be expected before the end of this five-year plan. The Institute of Theoretical Information and Automatization of CSAV in Prague and, within the frame of SAV, the Laboratory for Machinery and Automatization in Bratislava deal with the problems of using automatic calculating machines in complex automatization. Between both work places there exists a close cooperation and exchange of experience.

Our work place, following the decision of Eleventh Congress of the Communist Party of Czechoslovakia and the decision of the Government of the Czechoslovak Republic on the development of science and technology in the national economy of Czechoslovakia in 1961-1965, suggested a problem which will be a topic for an all-State assignment: "The Research of the Complex Automatization of the Oil Plant Slovnaft, national enterprise." The complex automatization of the plant will be solved with the help of automatic calculating machines in two stages. In the first stage there will be worked out:

1. The basic theoretical concept of complex automatization;
2. Concentration on the necessary parameter of individual objects;
3. Setting up conditions for optimal complex guidance with the help and logic of calculating machines.

In the second stage, the calculating machine will be installed and theoretical hypotheses will be verified.

This task will be completely resolved in cooperation with the Department of Automatization of SVST in Bratislava, with the national enterprise Slovnaft, Research Institute of Anorganic Chemistry in Prague, and other development enterprises.

It will be the first Chemical Institute in Slovakia which will have complex automatization by means of automatic calculating machine. The

solving of the above-mentioned problem will demand much effort on the part of all coworkers. We have the main preconditions for solving this problem; it will be only necessary for all sections of SAV and CSAV to give us all their aid for solution.

A great shortcoming and a barrier in our work, as well as in the work of other work places of the Department of Technical Sciences, Mathematics, and Natural Sciences, is the fact that we still do not have in SAV a calculating center with high-potential, automatic calculating machines.

Why should we build calculating centers in our country? Considering all the advantages which automatic calculating machines have, different plants, enterprises, and institutes cannot afford to buy calculating machines for financial reasons. In addition to this, this economic utilization of these machines is not guaranteed when they are in enterprises where they are not in constant use for at least eight hours. Current experience from the Soviet Union shows that the calculation centers for scientific calculation are set up with the Academy of Sciences of the Soviet Union and in Union Academies; this guarantees their optimal utilization. As an example of the useful utilization of calculating machines, we can quote the abridged calculation connected with the preparation of guided missile projects. It would take seven months for ten employees to solve ten variants of this assignment, using standard calculating machines. Using automatic calculating machines, the solving of the same problem (with 100 variants) took to a relatively smaller number of employees one week. The saving on the calculating work only, which materialized with the help of automatic calculating machines, was approximately one billion rubles in 1958. In addition to the savings, the use of calculating machines means a shortening of the computation work and thus the speeding up of the entire research and construction of prototypes of new machines. I will quote an additional example: Using the well-known Soviet machine BESM, in less than six days all the routes along which 700 asteroids of the solar system move were computed. In addition to this, the influence of the movements of Jupiter and Saturn was also considered. The machine calculated in two hours the movement of an intercontinental missile. Using conventional means, this would take approximately two years of uninterrupted work.

Basically we divide the calculating centers into two groups: calculating centers for scientific research and calculations, and calculating centers for economic calculations.

To the first group belong calculating centers of academies and research institutes. To the second group belong calculating centers of large economic centers and large industrial combines. In addition to this, as an additional task calculating centers are responsible for the training and preparation of new cadres.

We can conclude from the above facts that our competent politicians, economists, and scientific workers must devote to the problems dealing with the establishment of calculating centers much more attention than they yet have. This point of view is not subjective, but is an objective law of the development of technology in the whole world,



including our country. We have the conditions for building successfully a calculating center in SAV; its establishment will surely bring an additional development of science in Czechoslovakia.

In conclusion, allow me to mention the training of cadres for calculation and for the automatization and coordination of research in the field of automatization. As far as the training of cadres for automatization is concerned, the situation is beginning to improve; in a relatively short time the first results will show. At the SVST in Bratislava, the chair for automatization was established, and since 1 March of this year schooling began in the form of a two-semester superstructure course. In 1961 specialization for automatization will be established. Therefore, there are all the preconditions for obtaining from SVST in Bratislava experts for the solving of the problems of automatization, mainly in the Fourth Five-Year Plan. Conditions for the training of experts for calculation techniques are worse. The School of Natural Sciences UK in Bratislava should take the initiative here, and, with all possible support of the branch office of the Ministry of Education, quickly begin the training of experts for calculation techniques.

As far as the coordination of research and the development of automatization in Slovakia are concerned, it is necessary to mention this: CSAV has supreme jurisdiction over the coordination of research in all fields within the entire territory of Czechoslovakia; however, we think that it would be proper, even with the existing territorial organization, if there were an organ of SAV which would follow, in close cooperation with the expert organ of CSAV, problems dealing with the research, evolution, and development of automatization in Slovakia directly in those plants which would submit to the appropriate places on their own initiative suggestions for speeding up the introduction of complete automatization in our national economy.

Honorable General Assembly, comrades! Our generation witnesses the fast development of science and technology. The most daring phantasy, which until recently was impossible to materialize, becomes a reality today. The human mind does not know any limits in discovering and conquering Nature, in producing new machines and instruments. With the broad penetration of the results of complete automatization and a higher form of cybernetics into scientific research, into the production and administration of our political, economic, and cultural life, following the path of the technical progress, we secure for us the forming of a material base for communist society."

Member correspondent of SAV Tibor Kolbenhayer spoke for several smaller work centers of the Department of Mathematics and Natural sciences of SAV, the development of which is very important on an all-State base and which successfully solve several key tasks of State research:

"The Geophysical Laboratory of SAV, within the six years of its existence, successfully overcame the majority of initial difficulties

within the framework of the all-State seismic and geomagnetic service, and in relations with other countries reliably secured this service in the territory of Slovakia; it contributed greatly to the all-State geophysical mapping, and today it already successfully is fulfilling its share of the State project for the gravimetric mapping of Czechoslovakia. Two weeks ago, the participation of Czechoslovak work places in the fulfilment of the tasks of MGR and MGS and the participation of the Geophysical Laboratory, which was not and could not be very extensive, got a positive evaluation at the all-State conference in Liblice. We fulfilled the obligations which we assumed in these important interstate transactions. Nevertheless, the activities of the work place still have many shortcomings. One of the most important tasks which this work place faces is the strengthening of ideological and political work, as well as building its cadres staff.

The Geological Laboratory of SAV solves important stratigraphic and systematico-paleontological problems, as well as the problems of the origin and occurrence of mineral raw materials connected with erosion of the crust of the earth. This problem falls in line with those set up by the Eleventh Congress of the Communist Party of Czechoslovakia, because its solution helps science to get ahead of the needs of our society. The majority of the tasks which are solved in the Geological Laboratory is in direct relation to the development of our national economy. Even this year, this work place is solving one state assignment.

The activities of the Geographical Institute of SAV concentrated, in accordance with the principles accepted by the Eleventh Congress of the Party, on problems closely connected with the most effective use of natural and economic conditions in Slovakia. Geomorphologic research of Slovakia will concentrate primarily on the lowlands and basins which are most productive for farming. In connection with the building of a powerful industrial base in Eastern Slovakia, specific attention will be given to the Kosice basin. In these tasks, workers of the geomorphologic sector will participate on the preparation of a geomorphologic map of Slovakia, scale 1:50,000, which is a part of a State task. From the point of view of the tasks of this institute, it seems necessary to complete a cadre sector on economic geography, mainly in the geography of the population and in the industrial and transportation industry.

Meteorology and climatology, as an independent field of science, do not exist at SAV yet. The research in this field was also incorporated in the Institute of Geography of SAV. This research was divided in Slovakia in several work places, and in the interest of greater effectiveness it was agreed to build one meteorological scientific research institute at SAV. In this way a better organization will be accomplished and eventual duplication will be eliminated.

The Department of Meteorology and Climatology at the Geographical Institute of SAV is in close contact with foreign work centers and works on some tasks of all-State importance, important from the point of view of our ability to defend our country. The First International Congress of Meteorology and Climatology of the Carpathian Region and the Fourth Polish-Czechoslovak Congress dealing with the meteorology

of High Tatra took place in Slovakia.

The Institute for Astronomy at SAV has two work places: an observatory at Skalnaté Pleso and a theoretical center in Bratislava. The institute is engaged in solving several long-term tasks, such as research of the sun, research of interplanetary substances, research of artificial satellites of the earth and cosmic rockets, and astrophysical research; these are included in research within the frame of the Third Five-Year Plan. The institute is fulfilling its assignments satisfactorily, which is reflected also in the publication activity of its workers. The year of the first Soviet cosmic rockets, 1959, gave to the workers of the institute broad possibilities to participate fully in the program of the congress of the Communist Party of Czechoslovakia dealing with the cultural revolution.

We can state that the ideological and political work in all these work places had a much better broader and more successful development than in the past, when, unfortunately, it had been neglected a great deal, and no systematic attention was paid to the ideological growth of its workers. At present these workers are participating in the RSS [?] ideological seminars, and more intensive ideological schooling, which must receive systematic attention in the future, is already bringing favorable results in the overall activities of our work places.

The most urgent problem of all four work places of SAV. This is well-known and is found in many other work places of SAV. This is the lack of space, which, together with the development of work places and an increased number of workers and equipment, becomes increasingly felt and is a serious obstacle in their work. The Geophysical Laboratory in Bratislava has three rooms, in which 16 workers work; in addition to this the majority of the instrument inventory, auxiliary equipment, maps, etc. is also stored there. All this takes much space. Even the character of the work itself requires lots of room. The Geological Laboratory has eight workers in one room on the street "Obranci mieru," and large laboratory projects must be done in the laboratories of the School of Natural Sciences of UK, which itself does not have sufficient space and is trying all means of relief and to gain the space which is still occupied by the Geological Laboratory of SAV. The Institute of Geography of SAV and the Institute of Astronomy of SAV have identical complaints. As far as the Institute for Astronomy is concerned, it would be beneficial with regard to the work places in Skalnaté Pleso and Lomnický štít, to build a building for the Institute in Tatranská Lomnica. Until the building of this project can be realized, the unfavorable situation could be temporarily solved by obtaining a suitable building from the national committee in Tatranská Lomnica.

I wanted to say briefly this much about the work and problems of the four work places of the first section. Even if the above-mentioned problems are only details from the life of our Academy on a broader scale, today these problems are almost stereotypical, common not only to these four work places of SAV, but also to many more. Therefore, I think that they deserve to be mentioned in the forum of the General Assembly.

The new organization of relations between CSAV and SAV, which the

President of SAV, academician Siracky, mentioned in his address, has put all the work places of the Academy in a new light and has given to all work places new tasks which will be solved with close cooperation between CSAV and SAV. With reference to these problems and questions, we can concretely speak here for the Geophysical Laboratory of SAV. I think, however, that even in many other small work places the situation will be similar.

Since the establishment of our work place, i.e., since 1954, the cooperation between the institutes of CSAV and SAV has been very close, cordial, and good. In the past six years the Geophysical Laboratory very often sought help from the Geophysical Institute of CSAV. Several of our young workers had their work assignments at the Geophysical Institute of CSAV in order to become acquainted with special methods. The Geophysical Institute of CSAV offered these work opportunities with a maximum amount of willingness and conducted them with much care. This was of a still greater importance for the development of our work place, because we actually did not have any specialists in geophysics, and the workers of GL SAV were gathered from affiliated scientific fields, surveyors, and physicists. Even in the furnishing of our laboratory we very often consulted the workers of GU CSAV. I could mention here the attempts with our telluric station, the cooperation in seismics, etc. At the end, this close cooperation will be natural and unavoidable; without it, the GL SAV would not be able to fulfill satisfactorily its obligations on an international scale.

When we consider the new adjustment of relations between CSAV and SAV, it means in our case an additional, major deepening of the relations between the Geological Laboratory and the Institute for Geology. This new arrangement may bring for the development of our scientific discipline much profit from the point of view of a unified and purposeful adjustment and organization of the research, as well as from the point of view of training cadres and the scientific growth of our workers. However, we must keep in mind that the success of this important provision will depend on one very serious situation which deserves serious consideration: the territory of Slovakia forms within the territory of our State a geologic, as well as geophysical, practically independent unit with many particularities which are interesting not only from the short-term, but also from the long-term point of view. It is therefore necessary to develop here geophysical research on a broader scale, especially basic research, without paying any attention to the fact that it is now just starting and our Geological Laboratory is now only a small work place. When this problem is well-considered, a new organizational form will bring to our geophysical research a new content and will be very advantageous for its further development.

It is a fact that the capacity of our Geological Laboratory, which is a very small work place on the international scale, does not suffice for the complete solution of various extensive problems of geophysical research on Slovakia. If we want to continue working in the future as we have until now, with the limited capacity of the Geological Laboratory, we would not be able to penetrate into these problems on

the broad front which the contemporary development of geophysics demands on the international scale. I am convinced that the new adjustment of relations between CSAV and SAV will enable not only a faster qualitative growing, but primarily a more correct usage of the possibilities of the Geological Institute of CSAV, so that the geophysical research of Slovakia can develop on a much broader scale than it has developed.

Esteemed General Assembly! Our working people are accomplishing under the leadership of the Communist Party of Czechoslovakia, the magnificent work of building socialism in our republic; it is entering another era of still more powerful creative work with a concentration of all its strength. In the work places of our section we are aware of the fact that science is one of the most powerful tools of this creative work, and that our scientific work center cannot and must not fail in that which the working people expect from us in building up our native country, as well as in the struggle for securing peace in the whole world. In the name of the work centers of the first section, I can declare that we will honestly and in all cases fulfill the tasks which are awaiting us in the period of the Third Five-Year Plan, as well as in the further building of our Republic."

Dr Ingenyř Rudolf Kohn, from the Chemical Institute of SAV, said:

"In the Chemical Institute of SAV, in the Department of Glycids and Biochemistry, the problems of theoretical research, which are the basis for the development of technological processes, have been solved. We achieved good results primarily in the production of sacharose, with respect to its processing by a fermentation process, in the processing of residual material of this production and their use for the protection of farming products during the vegetation and storing time, and in the production of organic acids, especially lactic acid. However, today the necessity of paying more intensive attention to the study of the entire chemistry of glycids proves to be more and more urgent. Although a certain amount of attention was given to the chemistry of glycids, it was done on a comparatively narrow scale, e.g., in the field of food chemistry (sacharose, starch) and the chemistry of cellulose. If we consider the fact that some of the simple or more complex sugars can form one of the cheapest raw materials in organic chemistry, we can sketch in front of us promising perspectives of research for new ways and their application. Thus, e.g., sacharose is marked as the third cheapest raw material in organic chemistry.

In the Chemical Institute of SAV, work is being done dealing with the fundamental problems of biosynthesis of sacharids, the solution of which is important with regard to the qualitative processes of its biogenesis.

From the point of view of pure research, the chemistry and biochemistry of sacharids falls into a scientific field which has received considerable attention in the world in recent years. Research of the microstructure of polysacharids is answering many questions connected with research of the structure and function of a living

substance. Many genetically and vitally important substances in a living organism are being formed by the metabolism of glycid, which would not form organisms if they did not have a suitable source of carbonic hydrates.

Therefore, research concentrates more and more on solving the problems of building polysacharid casings of microbe cells, which are very important for their pathogenic activity. The entire process complex of the function of these microorganisms precedes at the interaction of albumens with glycid in the form of glucoproteids. These demand thorough, basic research.

It is also impossible to imagine the modern research of synthobiotics without a detailed study of the sugar component of antibiotics and a search for suitable economic processes for their preparation.

However, numerous problems of the structure of sacharids have not yet been solved; therefore, many works deal with the study of tautomeric changes of cyclic forms from within, in open forms, and with their durability. The solution of these problems will make it possible to give a more detailed explanation of the qualities of monosacharids from the physical, chemical, and biochemical point of view.

The work which has been done in the chemistry of sugars is of great economic significance. It directs the attention of organic products industry, which is based mainly on the processing of the products of crude oil and the dry distillation of coal for sugars. The fact that the chemistry of sugars is of increasingly greater importance is also proof that abroad, substantial amounts of money in the budget are reserved for the research of the chemistry of sugars.

For example, crystalline sacharose, especially the refined, is very pure; because it is easy to obtain and because it is cheap, it can become in the future a raw material for the production of various products, especially derivates for the chemical industry.

The fermentation process of sacharose -- as we know it -- enables us to get a whole line of valuable chemical products, such as etanol, butanol, acetone, glycerin, lactic acid, vinegar, citric acid, glucon, dextran, etc.

Other chemical products which can be obtained from sacharose and from sugars in general are the products of oxydation, hydrogenation, products of disintegration in sour and alcalic environment, and esterification.

Also known is the possibility of producing high polymeric substances from sacharose: artificial nutriment; in addition to this, detergents, fuel, explosives, dissolutions, plastificators, toxic substances, wax, etc. can be produced.

Until now, the synthesis of compound sugars, oligosacharids, and polysacharids have not been studied much, even if the mechanism of its production has been clarified to a certain extent. Today, the steps are also known which must be taken in order to interrupt the building of compound polysacharids in certain phases in order to obtain the needed glycid with a shorter process. This is the direction which is followed, e.g., in building sacharose and maltose by microorganisms, which can be thus obtained by microbic synthesis.

Solving the problems connected with the basic research of chemistry and biochemistry of sacharids is extremely important, and greater attention should be devoted to it than has been in the past. The fulfilment of these research tasks is important not only from the point of view of industry, agriculture, nutrition, and care for man and his health, but also from the point of view of the superstructure and the knowledge of the structure and function of living substance. Therefore, we are aiming the basic research in the Third Five-Year Plan in this direction."

Inzenyr Frank Hanic, from the Institute of Inorganic Chemistry of SAV, said:

"Analyzing the main tasks which the Institute of Inorganic Chemistry of SAV is facing in the coming period, it is necessary to mention, at least briefly, the history of its development. This way we will be able to evaluate better the main tasks and possibilities of the Institute in the coming five-year plan.

When, in 1953, the Department of Inorganic Chemistry was established, the prevailing opinion of Czechoslovak scientific circles was that inorganic chemistry as a scientific field is a closed discipline, which is reduced by its problems to the physical chemistry, physics, or other closely specialized branches of science. Western influence to a great extent contributed to this wrong point of view, because in the West inorganic chemistry got into difficulties mainly due to two factors: in the theoretical part of inorganic chemistry, idealistic viewpoints prevailed; formulated like "the Theory of Resonance;" and in addition to this, there was an effort to separate basic research from practice, in order to eliminate the possibility of checking the results in practice.

The Department of Inorganic Chemistry of the Chemical Institute of SAV had, and also knew how, to find the correct direction in this chaotic situation. In the field of the theoretical inorganic chemistry, we accepted the results of a broad discussion in the Soviet Union which uncovered the false conclusions of the theory of resonance. We were building the basic research which was a continuation of problems connected with the socialist industrialization of Slovakia, with its raw material base, for example, the research of heat-resisting building materials, light materials, clay materials, etc., the research of raw materials for the manufacture of aluminum, etc. At the same time, the final plan of the development of inorganic chemistry is respected, especially in the field of silicates, which our Institute will develop on an all-State base in close cooperation with all similar work places in Czechoslovakia. We devoted our attention to the structure of materials and to the problems of what the relation of this structure is to its materials. A group of workers, dealing with the research of structures, took at the same time obligations to the people's democratic states; it also has close cooperation with the Academy of Sciences of the Soviet Union. The results of their work are known today even abroad.

A constant desire to combine basic and applied research led finally to the establishment of a single social research task, which the Institute will begin to solve in the Third Five-Year Plan. It will be research on a raw material base for Slovakia, made complete in cooperation with certain research institutes. Our institute will take over the research of molecular nets, which are important inorganic condensed silicates used for the separation of gases and liquids, for absorption etc., which are the result of individual channel structures of their compounds as a result of their special arrangement and composition. So that the Institute can fulfill its obligations as a part of the unified scientific base in Czechoslovakia, it will be necessary to speed its building and to strengthen its structural research, because the study of crystal chemistry of inorganic compounds has been done only within the framework of SAV. The situation has improved greatly since the Institute moved to the new space on Patronka.

Now the conception of the research plan of the Institute of Inorganic Chemistry of SAV is clear, on the whole; it will be necessary to devote constant attention to the fact that the collective of the Institute must concentrate its main force on the solving of common basic problems.

In conclusion, I wish to remind you that the correct concept of basic research in our Institute was formed quickly during its development. This was done, thanks to the participation of the majority of its workers, on ideological and political work and on the preparation of several ideological conferences of scientific workers in the Czechoslovak chemistry."

Academician Andrej Mraz, Vice-president of the section of Social Sciences of SAV, said:

"I think that so far none of the general assemblies of the Slovak Academy of Sciences has been able to give such a satisfactory report on the activities of our work places as the present Assembly, and none set such an extensive concrete and consequential plan of tasks for the future as we have today. This is eloquent proof of the preservation and consideration of scientific work in our country, its broadening and deepening growth, as well as its regularity of integrating complex needs of our society!

An expression of such a degree of development of science in Slovakia, in agreement with the overall trend of our development, with its conscious and planned speeding up, is that which comrade President Siracky mentioned in his opening address, that which was stressed in the report of comrade General Secretary Thurzo, and that which comrade academician Malek developed in his greeting address. We are interested in the closest and most creative organizational and work union of scientific efforts in the entire state, so that we can fulfill maximally the tasks which our socialist society in its present stage, as well as in future stages, of its development needs from science so urgently.

It has been stressed repeatedly that today's General Assembly and



its resolution should be considered historical, and that it signifies a qualitative growth and transformation in the activities of scientific work in our country. This is true in many connections, especially when we think of the needs and laws of a maximal connection between science and life and the all-State and partial tasks which the science has extended to domestic as well as universal relations. With the resolutions which we accepted at today's General Assembly of the Slovak Academy of Sciences, we proved that science in Socialist Czechoslovakia has not been left behind in development, does not close itself before its stormy rhythm, and does not look for refuge in the ivory tower of isolation.

In order to prove the previous conclusions, I would like to mention several statements dealing with the new adjustment of relations between the CSAV and SAV. These relations are growing from the experience of the scientific disciplines which are represented in the fourth section of our Academy. As I have already mentioned, this adjustment corresponds totally to the development of our society and science. At the same time, it is significant, especially for workers in the fields dealing with our homeland, that the qualitatively new socialist coordination and the realization of scientific activities of Czech and Slovak experts have their rich and fruitful traditions in the generation of Pavel Josef Safarik, Frantisek Palacky, Josef Jungmann, Jan Kolar, and other contemporaries, if we do not want to go further into the past. And these traditions in the progressive part of our science kept on developing further, even under poorest conditions, while science in Slovakia was in agony for many tens of years and was hardly able to give any proof of its existence. These traditions were deepened and continued in many respects by followers of Stur; we meet them to a large extent, even if sometimes controversial, in the generation of Jaroslav Vlcek, and in later generations all the way to our own predecessors and teachers, either at our universities after 1918, in the scientific sections of "Matice slovenskej," in Safarik's Learned Society, or in other scientific associations in Bohemia and Moravia. For a positive scientific effort in our territories and between our nations, the closest mutual cooperation and support cannot simply be left out of consideration.

These traditions reached a new stage and received new qualities after the defeat of Fascism and its allies. Among the great victories of Czechoslovakia and its organization after 1945, we duly list everything which is new, healthy, progressive, and socialist in the coexistence of our nations. Again, based on our experience from the work places of the Social Science section of our academy, as well as based on a comparison of the past (which many of us have witnessed) to the present, we can state with satisfaction that those principles in the adjustment of the mutual relations of our academies and our contemporary science in general, which comrade President Siracky discussed in his address in detail and which we wish to materialize in the future, are actually only an average generalization of that what already exists in the work of sections of our academies, the foundation for which was laid a long time ago and which is the only security for

the maximal development of science and culture in all our regions, with both our nations. At least in the Social Sciences Section and in the work centers of the most specialized study of our homeland and nations, such as The Institute of History of Slovak Literature or The Institute of the Slovak Language, cooperation with Analogical institutes of CSAV is fruitful in every respect, instructive, and, what is still more important, simply inevitable. Not only the level of our individual disciplines and their workers, but also the solution of concrete problems which result from these disciplines, regardless of whether they are Czech or Slovak, is out of consideration without the closest cooperation of Czech and Slovak scientists and with such an organizational arrangement of our academies and their work places as that which was suggested for adoption at today's General Assembly of SAV.

We can say that the past as well as the present spoke on behalf of the above-mentioned resolutions, and on behalf of the suggested resolution the needs of our life and the share of science in it also speak. There is no attempt here to ease the burden of the Slovak scientific workers as far as their duties are concerned, no attempt to push them in the background, no attempt to reduce their right as far as quality and functions of their work are concerned, but in everything -- and this must be clear to each one of us -- it is the very opposite. Our science has already been through all evolutionary phases, in which now and then provincial nationalism and other similar shortcomings could have been justified. Today, its own creative potential and mainly the needs of life and science, determine that it fulfill, in a close, creative alliance with the Czech scientific work, with the scientific work of the Soviet Union, in socialist countries, and in alliance with progressive science of the rest of the world, the maximum measure of the tasks of a socialist society's science, while its national attributes and functions will remain untouched, just as it is required by today's era of the building of socialism in our country."

Dr Anton Kotzig, in charge of the Cabinet of Mathematics of SAV, spoke about the importance of political preparation at putting together the plans for scientific research activities. He mentioned the experience gained in the Section of Natural Sciences and Mathematics of SAV, where the scientific workers discussed the tasks which their work places were supposed to take over within the framework of the scientific research plan of the Third Five-Year Plan. He stated that such an incorporation of a wider circle of workers into the problems and concepts of the additional development of work centers not only give good opportunities to make the plans more accurate, but also recapture the very valuable initiative of workers; at the same time, it is a good policy and expert school for them. Such discussions about scientific plans create good preconditions to accept the tasks with greater courage, because at this opportunity the cooperation between individuals and work places is strengthened, and a more convenient distribution of work takes place. Therefore, a good political preparation and the participation of a broader collective of scientific

workers in the creation of plans can be used also for a more thorough transplanting of the principle of increasing the collective character of scientific research work in our country.

Dr A. Kotzig also said that a great significance of political discussions rests also in the fact that the above-mentioned manner of preparation of plans broadens the outlook of those who participate in such discussions, gives an opportunity to see broader connections, confirms the inevitability of cooperation, and makes it easier to see the social reach of the scientific work being done. The cultivated feeling of belonging together and a conscious participation in the collective of workers in our entire native land, are significant expressions of the work enthusiasm of our scientific workers.

In the next part of his participation in the discussion Dr A. Kotzig brought to attention the fact that in the past we devoted relatively little time to the problem of final planning in scientific work, even when the significance of the plans in science was not disputable. In this direction we have advanced more thoroughly only recently, and the first favorable results of this have already become visible showed. The perspective here means not only assurance, but also good orientation, new suggestions, preconditions for more successful cooperation, and thus also preconditions for a better political preparation and fulfillment of plans.

In conclusion, Dr A. Kotzig recommended a still more detailed working out of problems of future planning, goals of the work centers, and mutual cooperation among them. All this can contribute to the creation in our country of a unified scientific research front for solving the problems which our society demands, first of all, from us.

JOINT SESSION OF THE PRESIDIA OF THE CZECHO-  
SLOVAK ACADEMY OF SCIENCES AND THE SLOVAK  
ACADEMY OF SCIENCES.

Following is the translation of an unsigned article in  
Vestník Slovenskej Akadémie Vied (Bulletin of the Slovak  
Academy of Sciences), Vol II, No 2-3, Bratislava, 1960,  
pp 116-121.

Provisions carrying out the bases of the new coordination of  
relations between the Czechoslovak Academy of Sciences and the Slovak  
Academy of Sciences.

On 17 and 18 May 1960 the Third Joint Session of the Presidia  
of the Czechoslovak Academy of Sciences and the Slovak Academy of  
Sciences took place in the house of scientific workers in Smolenice.  
The leading bodies of both organizations worked out decisions of the  
Thirteenth General Assembly of SAV and the Eleventh General Assembly  
of CSAV, which dealt with the new coordination of relations between the  
Czechoslovak Academy of Sciences and the Slovak Academy of Sciences.

Cooperation of both Academies has been improving and deepening  
in recent years; preconditions have been created to secure, by addi-  
tional organizational measures, a more rapid development on the  
scientific research activities which correspond to the needs and pace  
of development of our mature socialist society.

The Presidium of CSAV and the Presidium of SAV surveyed the  
present situation in the organization and classification of science;  
they considered mainly the notable development and level of scientific  
work in Slovakia. They came to the conclusion that the preconditions  
were created for the complete incorporation of Slovak science into  
all-State scientific tasks. In the interest of the further development  
of science, it seems to be greatly advantageous to incorporate the  
Slovak Academy of Sciences organically into the Czechoslovak Academy of  
Sciences (its title will, however, be preserved) and thus to create a  
unified head scientific institution in Czechoslovakia -- the Czechoslo-  
vakia Academy of Sciences. The joint organization of scientific  
research activities in all of Czechoslovakia will be thus secured and  
directed from one center.

The Presidium of CSAV and the Presidium of SAV agreed on the following provisions:

#### A. Membership in Academies

SAV becomes an inseparable part of CSAV. In the future, only the members of CSAV will be elected. Members of SAV will be gradually elected members of CSAV. This way, in due course, the membership of CSAV and SAV will merge and be unified. Members of SAV which are not yet members of CSAV will participate on assignments in sections of CSAV. All members of SAV and members of CSAV who have their assignments in Slovakia form the board of members of SAV.

#### B. Bodies of Academies

In the interest of the uniform administration of Czechoslovak science, the activity of the bodies of the academies has been modified as follows:

##### General Assembly

The chief functions of the general assembly of CSAV are:

1. to elect the president, presidium and members of CSAV;
2. to discuss proposals on a long-term program for the development of the entire Czechoslovak science;
3. to determine main trends of activities for both academies;
4. to discuss and approve reports of the presidium on the activities of both academies.

The board of members of the Slovak Academy of Sciences is invited to join discussions of the general assembly.

The board of members of SAV forms the general assembly of SAV. Its chief functions are:

1. to elect the president and the presidium of SAV;
2. to discuss and approve reports on its activities;
3. to solve basic organizational questions, such as the division of the Academy into sections according to the groups of corresponding scientific fields;
4. to discuss and recommend to the presidium of CSAV solutions to scientific problems concerning the development of a national culture and specific economic questions of Slovakia.

##### The Presidium of CSAV and the Board of SAV

The Presidium of CSAV will be supplemented by two members of the board of SAV, from which one will be present at the sessions of the board of the presidium of CSAV (these members of the board of SAV must be members of CSAV). The election will take place at the fall general assembly of CSAV.

The presidium of CSAV will solve mainly the following basic

questions:

1. The establishment of work centers for CSAV and SAV;
2. It will approve the plans of scientific research assignments from laboratories of CSAV and SAV and will evaluate their results;
3. It will approve the proposals of the State plan of key scientific research tasks;
4. It will approve the economic plan and the budget of CSAV and SAV;
5. It will approve the plan for relations with other countries; CSAV is the only representative of Czechoslovak sciences which deals with foreign institutions;
6. It will appoint and recall directors of all work centers of CSAV.

The Board of SAV mainly:

1. Secures, according to basic directives of the presidium of CSAV, the activity of the sections and scientific laboratories under its administration;
2. It discusses the plans for scientific research activity of CSAV prior to discussion in the presidium of CSAV;
3. It discusses applications for membership in CSAV of those scientific workers who work in Slovakia and it reports its findings to the presidium of CSAV;
4. It is the body of the presidium of CSAV in all personnel and cadre questions of the work centers under its administration;
5. It suggests to the presidium of CSAV appointments and recalls of directors of work centers under its administration;
6. Delegated by the presidium of CSAV, it will solve (even without preliminary discussions in the sections of CSAV) questions of a short-term character dealing with trips abroad, fulfilment of the editorial plan, minor changes in the approved plan of investment construction, and in the work plan.

#### Sections of Academies

##### Sections of CSAV:

Although the break-down into sections is not identical in both academies, the presidium of CSAV will place, in agreement with the presidium of SAV, members of SAV according to their fields in considering their requests for transfer to sections of CSAV.

In order to secure a close contact of sections of CSAV and SAV, some members of CSAV which were assigned to Slovakia will be elected, according to needs, to the boards of the sections of CSAV.

##### Sections of SAV:

The existing duties of sections of SAV which are the consequence of the administration of work centers and which are incorporated into this or that section, have not changed basically. Sections of SAV are incorporating members of CSAV assigned to Slovakia. The presidium of

SAV decides on incorporating these members into individual sections of SAV upon their request. The tasks of the sections of SAV are:

1. To discuss annual and future plans for the scientific research tasks of their work centers and to forward them to the sections of CSAV;
2. To control the fulfilment of the scientific plan for their work centers;
3. To prepare reports on the fulfilment of the scientific plan of their work centers and to present them to the sections of CSAV;
4. To suggest an annual plan of trips abroad and to present it to the sections of CSAV;
5. To suggest annual and future editorial plans and present them to the sections of CSAV;
6. To suggest a concept of development for individual work centers under their administration, and eventually a further concept of additional fundamental questions dealing with the development of relevant scientific disciplines, and to submit their suggestions to the sections of CSAV.

As a rule, the following procedure is valid for the discussion of all above mentioned plans:

The suggestions on the work centers of SAV originate from the basic directives on the development of science within CSAV. Prepared in cooperation with the work centers of identical or closely related scientific fields on a whole state scale, they are discussed by sections of SAV, who then forward them with their comments to sections of CSAV. Suggestions of sections are worked up by corresponding bodies of the presidium of CSAV to a joint proposal, which the presidium of SAV discusses and presents it with comments to the presidium of CSAV for final decision.

#### C. Work Places of the CSAV and SAV

All work places of SAV become work places of CSAV. Existing work places of CSAV and SAV form a joint network of work centers of CSAV. Work places under the administration of the Slovak Academy of Sciences will be marked this way: The Czechoslovak Academy of Sciences, name of the work place, SAV.

SAV secures, following the decision of the presidium of CSAV, activities of scientific work places under its administration.

For the establishment of scientific work centers in Slovakia, the identical directives which exist for the establishment and liquidation of the work centers of CSAV and its branches are valid as of 21 March 1958, with the exception that proposals for their establishment or change are presented by the presidium of SAV, after hearing the corresponding section of SAV. After the corresponding section of CSAV has expressed its opinion, the presidium of CSAV decides on the proposal with regard to the needs of the whole state for development of a scientific research base.

#### D. Coordinated Administration Activities

Overall coordination and administration activities in the field

of basic research and in scientific tasks of key economic significance is secured by CSAV. In order to increase its effective operation, in setting up the State plan of key scientific research tasks for the development of a scientific research base and the training of scientific workers, committees of CSAV, councils for complex assignments, and scientific councils on key tasks (which already exist or will be created) will be supplemented by additional representatives of Slovak science and Slovak groups. These State research-plan groups will work closely with sections of CSAV and the presidium of SAV.

CSAV, while preparing the State plan of key scientific research works, will fully consider the needs of Slovakia and will objectively use the capacity of scientific research work centers in Slovakia. The secretariat of the State plan of research sends all suggestions, to which sections of CSAV must make their comments simultaneously, to the Presidium of SAV, which comments them in the same manner as the sections of CSAV do.

#### E. Scientific Research Plan of CSAV

a. The Planning Commission of CSAV will be joint, supplemented by the representative of the president and additional members from Slovakia.

b. Methods of planning and evaluation of scientific research activities in the work centers of CSAV and SAV.

The principle of forming a joint plan will be secured by a joint planning methodology. Based on the directives issued by the Presidium of CSAV, the work places of CSAV and SAV will discuss and coordinate their plans and present them to the sections of CSAV. The Planning Commission of CSAV will work out the summary of the suggested plan, which will be discussed in the Presidium of SAV before it will be approved by the Presidium of CSAV.

#### F. Training of Scientific Workers

The Presidium of CSAV is working on a joint plan for the training of scientific workers with regard to the needs of all work places. At the same time, it will see to it that more Slovak candidates get training in Czech lands.

The Presidium of CSAV and the Presidium of SAV will plan to direct the exchange of scientific workers and their useful placement in the work places of both academies, so that the best scientific workers can work in the institutes of both academies.

CSAV, in agreement with SAV, carries out the following tasks:

1. It puts together a joint plan for candidacy;
2. It announces parallel competition for the positions of scientific candidates;
3. It controls the training of resident and non-resident candidates, as well as the preparation of scientific workers outside candidacy;
4. It secures the selection of suitable teachers;



5. It issues uniform directives dealing with the training of scientific workers.

SAV keeps track of candidates in the work centers which it administers; within its jurisdiction it solves the problem of candidates according to uniform principles.

#### G. Editorial Activities

The editorial plan of SAV is a part of a joint editorial plan of CSAV.

The presidium of CSAV will unify the publication of periodicals of both academies from the point of view of all-State needs and the need for individual scientific fields to avoid undesirable duplication. According to the same principles, the composition of editorial councils for individual periodicals will also be organized.

Both existing publishing houses, i.e., the CSAV publishers (NCSAV) and the SAV publishers (VSAV) will be preserved. The publishing house of SAV will be directed by the presidium of SAV according to the basic directives of the presidium of CSAV. NCSAV and VSAV will participate, according to their capacity, in securing the approval of a joint editorial plan of CSAV.

In order to secure a uniform procedure of editorial activities, the joint directives dealing with editorial activities of CSAV will be applied to both academies and in their editorial classification.

The topics for the plans of SAV will be submitted, after they have been discussed in the sections of SAV, to the sections of CSAV, which are supervised by the editorial commission of the presidium of CSAV. They are then presented as a whole to the presidium of SAV and finally to the presidium of CSAV. Both publishing houses will inform each other about their plans for topics and will coordinate their activities in relations with other countries, publicity campaigns, and in basic professional and economic questions.

NCSAV and VSAV are independent, fully qualified members of the Association of Czechoslovak Publishing Houses, and they are bearers of all copyrights.

Since 1 January 1961, periodicals of CSAV and SAV will merge and only one periodical will be published: the Periodical of CSAV.

In the central committee of the presidium of CSAV there will be a Slovak representative, who will join the editorial council of the periodical of CSAV.

#### H. Relations with Other Countries

The Czechoslovak Academy of Sciences is the sole representative of Czechoslovak science in its relations with other countries.

The work centers of CSAV and SAV can discuss with foreign physical and juridical persons, preliminarily and noncommittally, upon the realization of actions previously approved by the presidium of CSAV.

Foreign scientific relations for both academies are directed by

a unified yearly plan of foreign scientific relations which is approved by the presidium of CSAV. The plan for relations with other countries is a part of the scientific research plan of CSAV.

Suggestions of work centers of CSAV will secure preliminary approval by the presidium of corresponding sections of CSAV. Even for the discussion of the plan for foreign scientific relations, the identical procedure is followed which is used for the approval of scientific research plans for work centers under the administration of SAV.

The office of the presidium of CSAV discusses questions dealing with issuing of passports for the workers of both academies with the Ministry of Foreign Affairs. The office of the presidium of CSAV also handles visa formalities with those diplomatic authorities who do not have consular representatives in Bratislava.

#### J. Economic-Financial Questions

Securing and dividing financial and material means for the work places of CSAV and SAV falls under the jurisdiction of the Presidium of CSAV. The office of the presidium of CSAV, as an executive body of the presidium of CSAV, fulfils the function of the central office of both academies in economic-financial matters.

Work centers under the administration of SAV are economically directed by the office of the presidium of SAV, as an executive body of the presidium of SAV.

In questions of a financial-economic nature, the office of the presidium of SAV fulfils the function of a budget organization of the second degree, and in questions of investment building it fulfils the function of a supreme investor. Expert arrangement is valid also for other sections of work activities of the office of the presidium of SAV.

The work places of CSAV, as well as the work centers of SAV, are budget organizations of the third degree, as they have been until now.

#### Conclusion

The new coordination of relations between CSAV and SAV (which are contained in the resolutions approved by the Secretariat of the Central Committee of the Communist Party of Czechoslovakia and in the above mentioned provisions by which this policy is brought into effect) are incorporated in some of the laws of CSAV and SAV and in the organizational orders of both academies which have not yet been formally changed. During the transition period, i.e., until the amendment of the law and by-laws, it is necessary to interpret these past by-laws in accordance with the proposals for a new constitution of Czechoslovakia, with the new territorial organization of the State, and in accordance with the principal of democratic centralism. For these reasons, everywhere that some by-laws of the above-mentioned legal regulations have not yet been abolished and do not correspond to the new coordination of relations, the principles of the new organization, which express the will of both academies to cooperate in a brotherly manner, will be applied.

Following the decision of the Secretariat of the Central Committee of the Communist Party of Czechoslovakia, dated 13 April 1960, the experience gained by carrying out the principles and measures of both academies will be used to work out the draft of a new law and organizational order of CSAV.

ON SESSIONS OF THE PRESIDUM OF  
THE SLOVAK ACADEMY OF SCIENCES.

Following is the translation of an unsigned article in Vestnik Slovenskej Akademie Vied (Journal of the Slovak Academy of Sciences), Vol II, No 2-3, Bratislava, 1960, pp 170-173.

The Eighteenth Session took place on 25 January 1960.

The vice-president of the Slovak Academy of Sciences SAV, academician Stefan Schwarz, presided. The Presidium of SAV approved the proposition to elect the Thirteenth General Assembly of SAV and to examine how the resolution of the Twelfth General Assembly of SAV was carried out. In connection with this, the special attention of the section was drawn to the fact that a better use of the staff of the Czechoslovak Academy of Sciences CSAV should be made at home and abroad, especially in the Soviet Union. In addition, the Presidium of SAV evaluated the study of scientific candidates for the school year 1958/59 and drew due conclusions regarding the statutory rules of candidateship. The Presidium approved the proposal for detailing the plan and budget of SAV for 1960. In doing this, it urged the office of the Presidium of SAV to speed up the solution of the question of building electrification for the section Tatranska Lomnica - Skalnaté Pleso, the Institute for Machinery and Automation, the Mining and Metallurgic Research Institute, etc. Among other points of discussion the Presidium of SAV discussed the new organizational structure of chemical work places of the Academy, appointed academician Ladislav Szato, as Director of the Philosophic Institute of SAV, ratified the agreement on cooperation with the German Academy of Sciences, the Polish Academy of Sciences, and the Hungarian Academy of Sciences. It took note of the report of the chairman of the Department of Mathematics and Natural Sciences, academician J. Vasatko, about the establishment of the Czechoslovak Biochemical Society in Slovakia; under the chairmanship of member correspondent of SAV V. Thurzo, it participated in the statement of the Academy of Sciences of the Soviet Union to the Academy of Sciences of Spain and to the Academies of Sciences of all countries. Finally, it took notice of the informative report of the bill about the scientific research basis and the draft of the government decree about the scientific research work places.

The 19th Session took place on 15 February 1960.

The vice-president of the SAV, academician Oto Dub presided. The Presidium approved with comments the plan of scientific-research tasks of SAV for 1960, as well as proposals of selected scientific research tasks which it will follow in 1960. The plan for 20 scientific conferences, consultations, and seminars was also approved. The Presidium

further discusses the report of academician Igor Hruslovsky about the activities of the Czechoslovak - Soviet Institute of SAV and agreed after discussion to build the work center as a possible Institute for Slavic Studies. For this it is necessary to establish a department of Russian literature and other Slavic literatures and to complete the building of a department of the history of the Soviet Union and other Slavic nations for research on the very recent history of Czechoslovak-Soviet relations, and possibly to create conditions for the establishment of a department of the folklore of Slavic nations. In Eastern Slovakia it is necessary to concentrate on the research of Ukraine ethnology. Finally, the Presidium of SAV approved the investment project for the second stage of building scientific work places on Patronka. It also agreed to establish a technical unit with the office of the Presidium of SAV, which will supervise the investment plans of the Academy.

The 20th Session took place on 7 March 1960.

Academician Andrej Siracky, president of SAV, presided. After a thorough analysis of the activities of Philosophic-methodological seminars in the work places of SAV in 1959, the Presidium of SAV accepted measures to increase the level of this form of ideological schooling in the coming school year. In addition it took note of the editorial activities of SAV for 1959 and approved the draft for the first part of the topics of the editorial plan for 1961. At the same time the Presidium of SAV approved some changes in the editorial plan of SAV for 1960.

The Presidium approved the program, the budget, and the participation of guests from abroad at the Third International Histological Symposium in Smolenice, 22-25 September 1960. Finally, the program of Academy celebrations of the 15th anniversary of CSSR was approved.

The 21st Session took place 14 March 1960.

The vice-president of SAV, academician Stefan Schwarz, presided. The Presidium discussed and approved with comments the report on the activities of SAV for 1959 and assigned the chief scientific secretary of SAV, member correspondent William Thurzo, to present it after modification at the Thirteenth General Assembly of SAV. The Presidium of SAV then cancelled the Commission for the Building of Scientific Institutions in Patronka. The Presidium also discussed the proposal of economic activities of SAV during the Third Five-year Plan, commented upon it, and approved it. It also discussed some organizational measures dealing with the number of departments and the amount of awards given for their administration in the work places of SAV. The Presidium took note of the establishment of the Czechoslovak Oriental Society at SAV, headed by academician Jan Bakos, and of the report on the establishment of the Czechoslovak Meteorological Society at SAV, headed by Dr Stefan Petrovic. Finally, the Presidium of SAV, following the suggestion of academician Schwarz, opened competition for scientific candidates for the academic year 1960-61.

The 22nd Session took place 4 April 1960.

The president of SAV, academician Andrej Siracky, presided. Following the suggestion of academician Oto Dub, the Presidium of SAV

discussed the proposal of the prospective plan of scientific research tasks of SAV for the Third Five-year Plan, which was accepted only partially. It was agreed that its final wording will be discussed in June 1960. Discussed also were the activities of workers placed in scientific preparation, and sections were charged to examine present state of scientific preparation and discontinue it for those workers who did not fulfill the prescribed conditions. The Presidium of SAV also discussed the proposal of established signposts for scientific work places of SAV for 1960, approved the publication of a periodical of the Social Sciences Section, "Slavic Studies," and appointed Dr Damian Kovac as Acting Chairman of the Psychological Laboratory of SAV. Finally, the Presidium approved 46 titles of the editorial plan of SAV for 1961.

The 23rd Session took place on 2 May 1960.

The president of SAV, academician Andrej Siracky, presided. Following suggestion of the Executive Committee of the Presidium of SAV, the proposal to present awards for the scientific-research tasks completed by SAV at the celebration of the 15th anniversary of the liberation of the CSSR was discussed and approved. The following men were rewarded for their work: Pavel Turcan, Socialist Industrialization of Slovakia; Miroslav Kropilak, Participation of Soldiers in the Slovak National Uprising. Following the suggestion of academician Andrej Mraz, the Presidium of SAV discussed the report on the activities of the Institute of Slovak Literature; in connection with this it charged the social sciences section with ensuring the fulfilment of the project on the history of Slovak literature, especially during the third and fourth planning terms. The Presidium of SAV, after the statements of individual sections were made, appointed, for the coming three months, scientific secretaries of individual sections, valid from 1 May 1960. Professor Dr Anton Kotzig was appointed in the Department of Mathematics and Natural Sciences, Dr Ivan Ruttkay in the Department of Biology and Medical Sciences, Ing Rudolf Skrucany in the Department of Technical Sciences, and Dr Jan Bodnar in the Department of Social Sciences. The proposed program and the budget of the symposium on corticovisceral relation to man, Third International Cardiosurgical Conference and the Congress of Dendrologists, was approved. The Presidium also listened to reports on the agreement of cooperation with the Bulgarian and Rumanian Academies of Sciences.

The 24th Session took place on 23 May 1960.

Academician Andrej Siracky, president of SAV, presided. In his introduction, he evaluated the results of joint Sessions of the Presidium of CSAV and the Presidium of SAV which took place 17-18 May in Smolenice. He stressed the great importance of these sessions. The Presidium made preparations for planning the relations with foreign countries for 1961. It also discusses the report of academician L. Szanto, chairman of the editorial council of the magazine Nasa veda (Our Science) acknowledged it, and agreed to enlarge it by eight pages on the condition that the magazine will publish articles of an atheist character. The Presidium of SAV also took note of the report on

subscriptions to SAV periodicals. Approved also were the program and budget of the Sixth Polish-Czechoslovak Convention, dealing with meteorological problems of the High Tatra, the Seventh Convention of experts on Power and the Tenth Congress of Welders. Academician Karol Siska reported on the joint session of the Board of the Department of Biology and Medical Sciences of SAV and CSAV. The Presidium of SAV agreed to send the report to leading political officials and bodies.

The 25th Session took place on 13 June 1960.

Academician Andrej Siracky, president of SAV, presided. The Presidium approved the election of vice-presidents of individual Departments. The representatives of the chairman of the Department of Mathematics and Natural Sciences are academician Dimitrij Andrusov and member correspondent Mikulas Koncek; the representatives of the chairman of Biology and Medical Sciences are academician Ivan Stanek and member correspondent Pavel Nemec; the representative of the chairman of Technical Sciences is member correspondent Jan Gonda, and the representatives of the chairman of the Department of Social Sciences are academician Andrej Mraz and academician Ladislav Szanto. The Presidium also set the date and program for the additional ideological training of members and workers of SAV for 2-5 November 1960. The Presidium discussed and took note of the report of the Geological Laboratory of SAV and decided to solve the problem of its further development within the framework of the new, closer relations between CSAV and SAV. Finally, it took note of the report on the activities of the Committee for the coordination of research in the High Tatra.

The 26th Session took place 27 June 1960.

The President of SAV, academician Andrej Siracky, presided. On the basis of the new relations between CSAV and SAV, the Presidium of SAV recommended to the Presidium of CSAV to include the appointment of the President of SAV, academician A. Siracky and his deputy, academician Stefan Schwarz. It also approved the plan of main tasks for the second half of 1960 and assigned individual sections to work out their own plans in coordination with it. The report of academician Karol Siska on the activities of the Institute of Experimental Medicine of SAV was discussed; the director of the Institute, member correspondent Juraj Antal, was asked to devote increased attention to the popularization and propagation activities of workers of the institute, as well as to the assignment of workers of the institute to practical assignments. The Presidium of SAV approved the scientific plan of the institute. Following the suggestion of academician Stefan Schwarz, the Presidium of SAV discussed the proposal to accept scientific candidates for the academic year 1960-61 upon the approval of those who trained them. Eight resident and seventeen nonresident candidates were accepted. Those applications for candidacy upon which no decision was made will be discussed by a Committee of the Presidium of SAV. Following the suggestion of the director of SAV, Rudolf Martis, the Presidium of SAV abolished the Commission for Construction Investments and established a Committee for the Economic Plan of the Academy as an auxiliary body of the Presidium of SAV. It also approved the suggested provisions dealing with the economic-financial questions of operating the work centers of CSAV under the administration of SAV.